

SHELLFISH HARVESTING


The Safe Handling of Shellstock,
Overboard Discharge and
No-Discharge Zones



The Interstate Shellfish Sanitation Conference
In cooperation with
The Gulf of Mexico Program



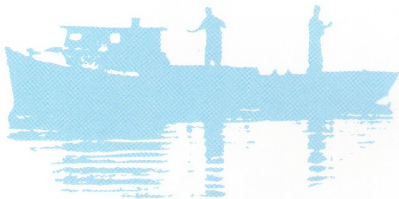
Shellfish Harvesting



Oysters, clams and mussels are seafood delicacies that are enjoyed by millions of consumers. Broiled, baked, steamed, fried, or raw on the half-shell, shellfish have been a seafood favorite around the world for thousands of years. Despite their popularity, they also have the potential for great harm—including severe illness and death—especially when consumed raw.

There are two primary reasons for this danger: 1) unique characteristics of the shellfish themselves, and 2) where and how shellfish are harvested, handled, and stored. It is important that harvesters know the importance of strictly following harvesting and handling regulations. Someone's life may very well depend on it.

When they are feeding, Molluscan shellfish—oysters, clams, and mussels—filter large quantities of water, entrapping plankton and other materials from the water as it passes over the gills. Mollusks have the ability to accumulate concentrations of bacteria and chemicals up to 1000 times that of surrounding waters. The primary contaminant is usually human sewage. When consumed raw by seafood lovers, the contaminants are consumed





as well, and can result in illnesses ranging from mild discomfort to severe illness and even death.

Consumption of shellfish from polluted waters often results in illness outbreaks. Some of these outbreaks, however, occur from shellfish harvested in approved waters. In most of these cases overboard discharge of human feces or vomitus has been cited as the cause. When illnesses do occur, harvesting areas may be closed and the entire shellfish industry loses sales due to adverse publicity. The message is simple: always harvest shellfish from approved or open waters and do not discharge waste overboard.

In state waters, molluscan shellfish can only be harvested from approved or open waters. To ensure that only safe shellfish are consumed by the public, shellfish control agencies conduct sanitary surveys and classify all shellfish growing areas. These shellfish growing areas are then patrolled by state shellfish control authorities which provide law enforcement to prevent harvesting from closed areas.

Onboard the Vessel

Harvesters must be licensed from the state authority before they harvest any shellfish. Harvesters are legally liable for illnesses and deaths that might occur from their disregard for proper harvest and handling practices.

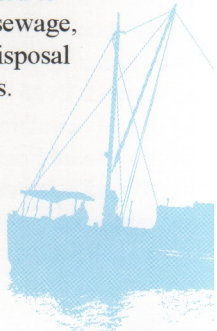
Boats used to harvest and transport shellstock must be properly constructed, operated and maintained to prevent contamination and decay of shellstock.

Decks, storage bins and bilge pumps must be kept clean, well drained and located to prevent polluted water from touching shellstock. Effective covers can shield shellstock from the hot sun and birds.

The most important concern is overboard discharge. It is critical that human sewage not be discharged overboard while boats are in growing areas or in no-discharge zones. Pathogens transmitted through overboard discharge can sicken many people. This often leads to losses in sales. Harvesters who ignore safe harvesting and handling practices are ultimately hurting themselves.

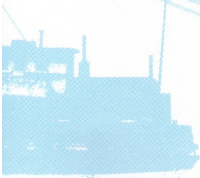
Since 1977, 1274 illnesses have been traced to overboard discharges of human sewage containing viruses which were taken up by the oyster and eaten by unsuspecting consumers.

To deal with the issue of overboard discharge, approved marine sanitation devices are required. Approved devices include MSDs, portable toilet or other sewage disposal containers. These containers must be secured to prevent spillage, must be used **ONLY** for sewage, and must only be emptied into a sewage disposal system such as toilet or pump-out facilities.



No-Discharge Zones

To further protect waters, including shellfish growing areas, states can have all or portions of their waters designated as no-discharge zones for vessel sewage. These designations can protect public health by providing pump-out facilities or dump stations. Rhode Island and New Hampshire have all of their waters designated as no-discharge zones. Others, including California, Florida, Texas, Georgia, Maryland, Virginia, Massachusetts, New Jersey, New York and North and South Carolina have certain bays and estuaries protected.



Time and Temperature Controls

The second line of defense to ensure the safe handling of shellstock is the dealers and distributors. Pathogens such as *Vibrio parahaemolyticus*, and *Vibrio vulnificus* occur naturally in seawater, but can sicken consumers and, in some cases, result in death to high-risk individuals. These pathogens are affected by temperature.

Pathogen levels can double in shellfish in as fast as 8 to 9 minutes at 98.6°F (37°C). Moderate levels can increase to high in as short as 2 to 3 hours at 68°- 95°F (20°- 35°C). Temperature control is critical to product safety. Cooling after abuse will only slow reproduction. Refrigeration cannot be relied upon to kill the bacteria.

States set time limits for harvesting to lessen the growth of *vibrio* pathogens and keep the product as cool as possible. Once the shellstock begins to warm, *vibriosis* rapidly reproduce and the possibility of causing illness in consumers increases. To maintain the quality of the product, shellstock should be washed with approved water and cooled as soon as possible. Minimize exposure of harvested shellstock to heat. Place shellstock in a refrigerated environment as soon as possible following harvest.

Consult your state regulatory and licensing agency to determine proper time and temperature controls for your area.





Conclusion

Through observation and enforcement of safe harvesting and handling practices, harvesters can help to protect public health, the shellfish industry, and ultimately their own livelihood.

Harvesters play the most critical role in ensuring that shellfish are safe to consume. Because of their unique nature in accumulating pathogens, shellfish must only be harvested from approved waters. Shellfish harvested from contaminated waters can lead to serious illness when consumed. Even shellfish harvested from safe waters can be quickly contaminated by the discharge of human waste from onboard boating vessels. Do not dump human waste overboard in harvesting waters or in areas designated as “no-discharge-zones.” Once harvested, handle and store shellfish according to storage time and temperature regulations determined by your state.



Interstate Shellfish Sanitation Conference
209-2 Dawson Drive, Columbia, SC 29223
803.788.7559

www.issc.org